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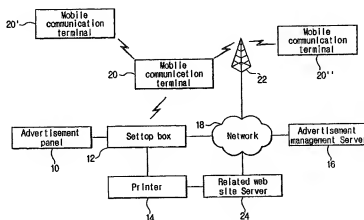
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(54) Title: METHOD OF TRANSMITTING ADVERTISEMENT AND INFORMATION IN REAL TIME BY MEANS OF LOCAL AREA COMMUNICATION



(57) Abstract: Disclosed is a method of transmitting advertisement and information in real time by means of local area communication. In the method, advertisement and information are displayed, and simultaneously a synchronization is carried out by providing different codes for portable/fixed-type information processing apparatuses located within a predetermined distance through a local area transmission module of a settop box. Thereafter, when there is a first request for local area communication from a portable/fixed-type information processing apparatus, the settop box analyzes the codes, and contents in relation to the corresponding advertisement and information are transmitted to the portable/fixed-type information processing apparatus, thereby enabling a user to connect with a web site in relation to the advertisement and information and carries out a web surfing. By the method, a moving user can easily obtain information he wants from advertisement or information-posting objects in the street or on public transportation, or advertising objects inside or outside buildings, and a user can obtain information he wants instantly and easily from information transfer media such as a television and a radio receiver.

METHOD OF TRANSMITTING ADVERTISEMENT AND INFORMATION IN REAL TIME BY MEANS OF LOCAL AREA COMMUNICATION

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates to a method of transmitting advertisement and information in real time by means of local area communication, and more particularly to a method of transmitting advertisement and information in real time by means of local area communication, which enables a user to obtain an advertisement and information, displayed through advertisement media such as an advertisement panel, in real time by means of a printing means or a local area communication.

Description of the Prior Art

It can be said we are in the advertisement and marketing era, in that numerous advertisements and information-posting objects are coming out like floods at every corner of our living space, for example, in the street, in the space of mass transportation, on the Internet, and on television and radio receivers. However, it is dubious how effectively such mass information can be transferred to expected users of the information.

According to the current method of providing information by means of information transferring media such as an advertisement panel, an information-posting object, a television, and a radio receiver, it is the current state that the information is lopsidedly displayed regardless of requests from the users. Further, due to time restrictions, it is frequent that users who need the information pass by without obtaining the information. From the position of an information provider, it is necessary to know how much effect the advertisement panel or information-posting object has. Although a user may sometimes have interest or concern in the advertisements and information-posting objects they meet in daily life, very often users fail to obtain the necessary information, due to a reason that a cumbersome labor such as a separate taking notes of the advertisement and information is necessary because the users usually see the advertisement and information on the street or in the course of their transfer or because the users have to rapidly memorize the advertisement and information in the case of the television or radio receiver.

In recent times, although the advertisements are displayed in various places, for example, in subway trains, in buses, in the street, or inside and outside of buildings, in order to attract the attention of the users, the users rarely take notes of the information even when they have interests in the advertisement and information. Therefore, there is currently no alternative for the users' memory in obtaining the information.

Even when a user has obtained the information by taking notes of the information, it is also a cumbersome labor and is a rarely utilized method to carry the noted information to a place in which the user can use media such as a telephone and/or the Internet. Therefore, it is difficult for the advertisement and the information-posting object to have a good effect by means of the current method as described above.

SUMMARY OF THE INVENTION

Accordingly, the present invention has been made to solve the above-mentioned problems occurring in the prior art, and an object of the present invention is to provide a method of transmitting advertisement and information in real time by means of local area communication, which enables a user to obtain an advertisement and information, displayed through advertisement media such as an advertisement panel, in real time by means of a printing means or a local area communication.

In order to accomplish this object, there is provided a method of transmitting advertisement and information in real time by means of local area communication, the method being carried out by a system, the system comprising: an advertisement/information management server receiving order for the advertisement and information and managing files relating to the advertisement and information; a settop box for controlling renewal, storage, and output of the received advertisement and information according to control of the advertisement/information management server; a display means for displaying the advertisement and information according to output control by the settop box; a printing means connected to the settop box; and a portable/fixed type information processing apparatus including a mobile communication terminal having a local area transmission module and an Internet communication module, the method comprising: a first step, in which the settop box connects with the advertisement/information management server at predetermined time intervals or without interruption; a second step, in which the advertisement/information management server transmits the advertisement and

information to be renewed to the setup box when the setup box has been connected with the advertisement/information management server; a third step, in which the transmitted advertisement and information are renewed and stored, and displayed according to a predetermined order, and simultaneously a synchronization is carried out by providing different codes for portable/fixed-type information processing apparatuses located within a predetermined distance through the local area transmission module of the setup box; a fourth step, in which, when there is a first request for local area communication from a portable/fixed-type information processing apparatus, the setup box analyzes the codes and sends a menu or list in relation to the advertisement and information to the corresponding portable/fixed-type information processing apparatus; a fifth step, in which, when there is a second request for a specific advertisement and information selected from the menu or list, data including contact means, a Web site address, and contents in relation to the corresponding advertisement and information are transmitted to the portable/fixed-type information processing apparatus, in response to the second request; and a sixth step, in which a user connects with a Web site in relation to the advertisement and information and carries out a Web surfing.

It is preferred that, when there is a third request for an advertisement and information from the printing means connected with the setup box, the corresponding advertisement and information are printed by the printing means. In this case, it is preferred that, in step 5 and the printing step, the advertisement/information management server receives data resulting from the number of times the corresponding advertisement and information are requested, and analyzes the effect of posting the advertisement and information.

Meanwhile, in step 4, the portable/fixed-type information processing apparatus tries to come into mutual connection with the advertisement management server which renews and manages the advertisement and information of the display means, the portable/fixed-type information processing apparatus receiving the corresponding advertisement and information from the advertisement/information management server when the mutual connection has been established.

Further, after step 5, the portable/fixed-type information processing apparatus transmits the received advertisement and information to another synchronized portable/fixed-type information processing apparatus having a local area transmission module.

Moreover, for advertisement and information received after step 5 by the portable/fixed-type

information processing apparatus, the advertisement and information are transmitted to a portable/fixed type information processing apparatus without the local area transmission module by a normal communication process through a base station and a communication company.

BRIEF DESCRIPTION OF THE DRAWINGS

The above and other objects, features and advantages of the present invention will be more apparent from the following detailed description taken in conjunction with the accompanying drawings, in which:

FIG. 1 is a block diagram showing the concept of a system for carrying out a method of transmitting advertisement and information in real time by means of local area communication according to the present invention;

FIG. 2 is a block diagram of a settop box employed in the apparatus of FIG. 1;

FIG. 3 is a block diagram of a mobile communication terminal employed in the apparatus of FIG. 1;

FIG. 4a is a flow chart of a method of transmitting advertisement and information in real time by means of local area communication according to an embodiment of the present invention; and

FIG. 4b is a flow chart of a method of transmitting advertisement and information in real time in the case where mobile communication terminals are located out of range of the local area communication, according to an embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Hereinafter, a preferred embodiment of the present invention will be described with reference to the accompanying drawings.

Although the present invention may be applied to all data including advertisement and information, the following description of the present embodiment relates only to the advertisement data in order to facilitate an understanding of a method of transmitting advertisement and information in real time by means of local area communication according to the present invention.

FIG. 1 is a block diagram showing the concept of a system for carrying out a method of transmitting advertisement and information in real time by means of local area communication according to the present invention. As shown in FIG. 1, in order to carry out the method of the present invention, the system includes an advertisement panel 10 on which advertisement and information are displayed, a
5 settop box 12 controlling image data and voice data to be displayed on the advertisement panel 10, transmission through local area communication, and printing in response to a signal requiring the printing, a printer 14 connected with the settop box 12 so as to output printed material, an advertisement management server 16 renewing and managing the advertisement and information, and a network 18 through which the settop box 12 and the advertisement management server 16.

10 In addition, the system also includes mobile communication terminals 20, 20', and 20'' capable of being in local area communication with the settop box 12 as well as enabling users to utilize a general communication service, a base station 22 for receiving signals transmitted from the mobile communication terminals 20, 20', and 20'' and transmitting the signals to a mobile communication management station (not shown), and a related Web site server 24 connected with the network 18 to store
15 and manage database for the advertisement and information.

In this case, the first mobile communication terminal 20 can be in local area communication with the second mobile communication terminal 20', which also carries out the local area communication, through a synchronization. Also, the first mobile communication terminal 20 can be in a normal mutual connection with the third mobile communication terminal 20'' through the base station 22.

20 Although the description of the present embodiment relates to only the advertisement panel 10, the apparatus of the present invention may employ advertisement object/information-posting object or various audio/video systems such as a paper display, a liquid crystal display, a monitor, a television set, a radio receiver, and an outdoor signboard, instead of the advertisement panel 10. Further, although one advertisement panel 10 and one settop box 12 are connected with one printer 14 in FIG. 1, a plurality of
25 advertisement panel 10 and a plurality of settop boxes 12 may be connected with one printer 14 in the apparatus of the present invention, so as to selectively provide multiple advertisement and information. Further, it is preferred that the network 18 is a high-speed network 18 such as an optical fiber-based 100 Mbps network and an Integrated Service Digital Network (ISDN).

In addition, a repeater (not shown) may be provided between the settop box 12 and the mobile

communication terminal 20 in order to limitedly enlarge the regional area in which the advertisement data can be transmitted.

FIG. 2 is a block diagram of a setup box employed in the apparatus of the present invention. The setup box 12 includes an AV interface section 121 in which interface of image data and voice data is carried out so as to operate the advertisement panel 10, a local area transmission module 122 with which the mobile communication terminal 20 can be in local area communication, a network adaptor 123 enabling a connection with the network 18, a printer interface section 124 for interfacing output data to the printer 14, a storage section 125 storing an operation program for operating the setup box 12 and data inputted and outputted, and a control section 126 for controlling signals inputted and outputted through the AV interface section 121, the local area transmission module 122, the network adaptor 123, the printer interface section 124, and the storage section 125.

In this case, the control section 126 may be a normal central processing unit, and the local area transmission module 122 may be a transmission module chip manufactured by Ericsson or CSR. Also, the transmission module chip may be the already known Bluetooth chip. Further, the network adaptor 123 may utilize, for example, an 10 Mbps Ethernet, for a high-speed communication.

FIG. 3 is a block diagram of a mobile communication terminal 20 employed in the apparatus of the present invention. Basically, it is inevitable that the local area communication and the Internet communication can be carried out by the mobile communication terminal 20. For this reason, the mobile communication terminal 20 basically includes: a transmission filtering section 202 for receiving only signals of necessary bands by filtering high-frequency signals relating to character, voice, and image data transmitted from the base station 22, which are received through antenna 201, and sending only signals of necessary bands through the antenna 201 to the base station 22 by filtering outputted high-frequency signals; a signal receiving section 203 for amplifying the weak high-frequency signals received after being filtered by the transmission filtering section 202 to a predetermined level, mixing the amplified signals with signals of a local oscillation frequency, and detecting intermediate frequency signals from the mixed signals, so as to decode original signals; a signal processing section 204 for processing the signals decoded in signal receiving section 203; a frequency synthesis section 205 for generating signals having a frequency corresponding to the transmission frequency through the signal processing section 204; a signal sending section 206 for modulating data inputted through the signal processing section 204 in

accordance with the high-frequency signals outputted from the frequency synthesis section 205, and amplifying and sending the modulated high-frequency signals; and an output interface section 207 connected with an output unit so as to display the inputted data. In addition, a local area transmission module 208, which is an important characteristic of the present invention, is connected with the signal processing section 204.

FIG. 4a is a flow chart of a method of transmitting advertisement and information in real time by means of local area communication according to an embodiment of the present invention. As shown in FIG. 4a, according to a request from an advertiser, the advertisement management server 16 adjusts advertisement according to a standard format in consideration of the advertisement panel 10, makes a compressed dynamic image file, and transmits the dynamic image file to the settop box 12 which is connected with the advertisement management section 16 at predetermined time intervals or without interruption. Then, the settop box 12 stores the renewed advertisement and information data and displays the advertisement and information on the advertisement panel 10 according to a predetermined order (S1).

While the advertisement and information are displayed, the local area transmission module 12 of the settop box 12 recognizes the mobile communication terminals 20 having the local area transmission module 208, which are located in a range of a predetermined distance, for example, 100 meters, and then is synchronized with the mobile communication terminals 20 (S2). In this case, simultaneously with the synchronization, information such as a phone number and a Web site address for the advertisement management server 16 managing the settop box 12 is downloaded, making provisions for the case where the mobile communication terminals go outside the predetermined distance, which will be described later.

In the meantime, whether an advertisement data requiring signal is inputted in the settop box 12 or not is judged (S3). When there is no advertisement data requiring signal, execution of usual advertisement continues, while the kind of the inputted advertisement data requiring signal is analyzed when the signal exists (S4). First, whether or not the signal is a printing requiring signal transmitted from the printer 14 is judged (S5), and then, when the signal is a printing requiring signal, corresponding advertisement and information are transferred through the printer interface section 124 to the printer, so that the printer outputs a printed object (S6).

On the contrary, when the signal is not the printing requiring signal, whether the signal is a signal requiring the local area communication or not is determined (S7). In this case, when the signal does not require the local area communication, the control section 126 of the setup box 12 processes the signal as an error (S8). In contrast, when the signal requires the local area communication, whether or not a mobile communication terminal is located within the range of the predetermined distance in which the local area communication is possible is determined (S9). When the mobile communication terminal is located within the range of the predetermined distance, a list of advertisement data is read and transmitted to the mobile communication terminal 20 (S10). Then, a user of the mobile communication terminal 20 selects an advertisement data corresponding to information which the user wants from the list of advertisement data and transmits it to the setup box 12 (S11). Then, the setup box 12 reads the corresponding advertisement data and sends it to the mobile communication terminal 20 (S12).

Thereafter, the user of the mobile communication terminal 20 connects with a Web site in relation with the corresponding advertisement data (S13), and does Web surfing so as to search and obtain the information which the user wants (S14).

In the meantime, in step S9, when the mobile communication terminal 20 is not located within the predetermined distance from the setup box 12, a control as shown in FIG. 4b is carried out, making provisions for a state where the user passes by the advertisement panel 10 by means of mass transportation.

FIG. 4b is a flow chart of a method of transmitting advertisement and information in real time in the case where mobile communication terminals are located outside the range in which the local area communication is possible, according to an embodiment of the present invention. As shown in FIG. 4b, when a mobile communication terminal is located out of the range in which the local area communication is possible, it tries to be in mutual connection with the advertisement management server 16 (S16). When the mutual connection has been established, the mobile communication terminal requests the desired advertisement data (S16). In this case, the phone number or the Web site address downloaded at the time of synchronization is utilized in establishing the mutual connection with the advertisement management server 16 as described above. Then, the advertisement management server 16 reads the corresponding advertisement data and transmits the data through the base station 22 (S17). The transmitted advertisement data is received by the mobile communication terminal 20 (S18), and then

the process goes to step S13 when the reception of the data is confirmed.

Although the description in the present embodiment is given on the basis of the case where the local area communication is carried out by means of the mobile communication terminals 20, it is public knowledge that the same can be applied to all portable and fixed-type communication terminals. Further, advertisement and information downloaded on the mobile communication terminal 20 may be transmitted to another mobile communication terminal 20' through synchronization between the mobile communication terminal 20 and the other mobile communication terminal 20', and advertisement and information may be transmitted through a usual mutual connection between the mobile communication terminal and another mobile communication terminal 20''.

Further, a method for transmitting information as sound/infrared-ray information may be utilized. In the method, when a user requires information by means of the mobile communication terminal 20, the settop box 12 transmits related information, and a user's mobile communication terminal 20 receives the information and displays it as sound/infrared-ray information.

As described above, the present invention relates to a method for improving effect and convenience in transmitting advertisement and information, and enabling a user to easily obtain related information/contents from an advertisement panel or an information-posting object, or an information providing medium such as a television and a radio receiver. By the method of the present invention, a user can easily obtain information (a phone number, a Web site, an address, contents, etc.) in relation to an information-posting object or an advertisement which the user wants, while an advertisement owner or an information poster can effectively provide information/contents for customers who are apt to be missed.

Further, since the information is circulated by means of mobile communication terminals or portable/fixed-type information processing apparatuses, users of the terminals and apparatuses can more easily obtain the information. Since information exchange can be carried out between users by means of the users' mobile communication terminals or portable/fixed-type information processing apparatuses, the information can be commonly utilized more easily and effectively. Furthermore, differently from the existing method capable of only displaying information, the number of those who utilize the advertisement or the information posting object can be exactly understood.

Moreover, in the course of transmitting information from an advertisement panel or an

information posting object to mobile communication terminals or portable/fixed-type information processing apparatuses, transmission of sound/infrared-ray information can be easily carried out and generalized by utilizing existing mobile communication terminals.

As described above, the method of the present invention provides both users and providers of
5 information with satisfaction and the advantage of effective circulation of information.

Although a preferred embodiment of the present invention has been described for illustrative purposes, those skilled in the art will appreciate that various modifications, additions and substitutions are possible, without departing from the scope and spirit of the invention as disclosed in the accompanying claims.

WHAT IS CLAIMED IS:

1. A method of transmitting advertisement and information in real time by means of local area communication, the method being carried out by a system, the system comprising:

5 an advertisement/information management server receiving order for the advertisement and information and managing files relating to the advertisement and information;

a settop box for controlling renewal, storage, and output of the received advertisement and information according to control of the advertisement/information management server;

10 a display means for displaying the advertisement and information according to output control by the settop box;

a printing means connected to the settop box; and

a portable/fixed type information processing apparatus including a mobile communication terminal having a local area transmission module and an Internet communication module, the method comprising:

15 a first step, in which the settop box connects with the advertisement/information management server at predetermined time intervals or without interruption;

a second step, in which the advertisement/information management server transmits the advertisement and information to be renewed to the settop box when the settop box has been connected with the advertisement/information management server;

20 a third step, in which the transmitted advertisement and information are renewed and stored, and displayed according to a predetermined order, and simultaneously a synchronization is carried out by providing different codes for portable/fixed-type information processing apparatuses located within a predetermined distance through the local area transmission module of the settop box;

a fourth step, in which, when there is a first request for local area communication from a 25 portable/fixed-type information processing apparatus, the settop box analyzes the codes and sends a menu or list in relation to the advertisement and information to the corresponding portable/fixed-type information processing apparatus;

a fifth step, in which, when there is a second request for a specific advertisement and information selected from the menu or list, data including contact means, a Web site address, and contents in relation

to the corresponding advertisement and information are transmitted to the portable/fixed-type information processing apparatus, in response to the second request; and

a sixth step, in which a user connects with a Web site in relation to the advertisement and information and carries out a Web surfing.

5

2. The method of transmitting advertisement and information in real time by means of local area communication as claimed in claim 1, wherein, when there is a third request for an advertisement and information from the printing means connected with the settop box, the corresponding advertisement and information are printed by the printing means.

10

3. The method of transmitting advertisement and information in real time by means of local area communication as claimed in claim 1 or 2, wherein, in step 5 and the printing step, the advertisement/information management server receives data resulting from the number of times the corresponding advertisement and information are requested, and analyzes an effect of posting the advertisement and information.

15

4. The method of transmitting advertisement and information in real time by means of local area communication as claimed in claim 1, wherein, in step 4, the portable/fixed-type information processing apparatus tries to come into mutual connection with the advertisement management server which renews and manages the advertisement and information of the display means, the portable/fixed-type information processing apparatus receiving the corresponding advertisement and information from the advertisement/information management server when the mutual connection has been established.

20

5. The method of transmitting advertisement and information in real time by means of local area communication as claimed in claim 1, wherein, after step 5, the portable/fixed-type information processing apparatus transmits the received advertisement and information to another synchronized portable/fixed-type information processing apparatus having a local area transmission module.

25

6. The method of transmitting advertisement and information in real time by means of local area

communication as claimed in claim 1, wherein, for advertisement and information received after step 5 by the portable/fixed-type information processing apparatus, the advertisement and information are transmitted to a portable/fixed type information processing apparatus without the local area transmission module by a normal communication process through a base station and a communication company.

FIG. 1

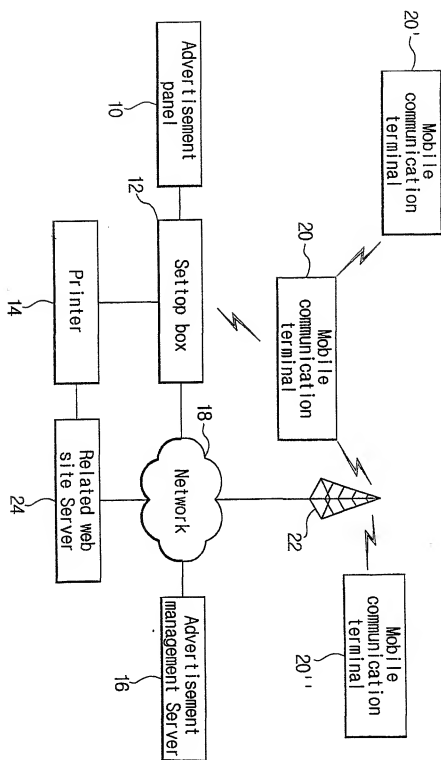


FIG. 2

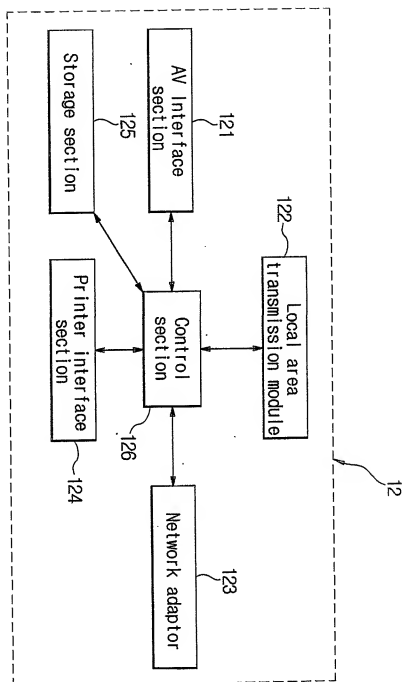
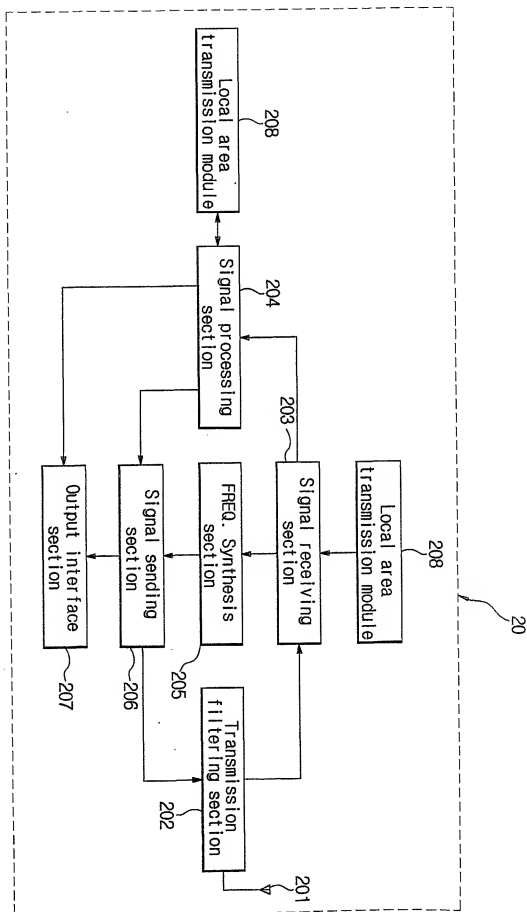


FIG. 3



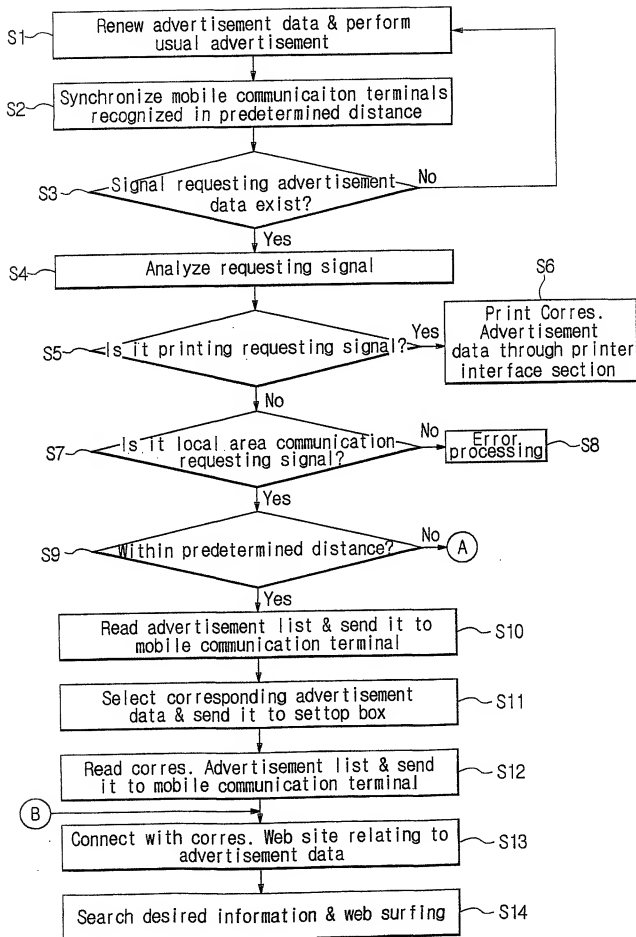
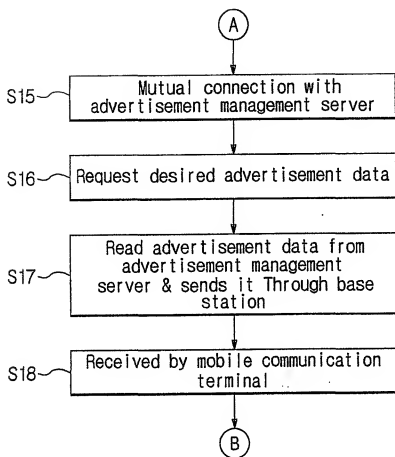


FIG. 4b



A. CLASSIFICATION OF SUBJECT MATTER

IPC7 G06F 17/60

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7 G06F17/60 ; G06F19/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
 Korean patents and applications for inventions since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 99/07125 A (GIEEMS CORP.) 11 FEB. 1999 SEE THE WHOLE DOCUMENTS	1-6
A	KR 2000-169533 Y (YANG WOONG-SUP) 15 FEB. 2000 SEE THE WHOLE DOCUMENTS	1-6
A	KR 99-56133 A (SAMSUNG CORP.) 15 JUL. 1999 SEE THE WHOLE DOCUMENTS	1-6

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

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